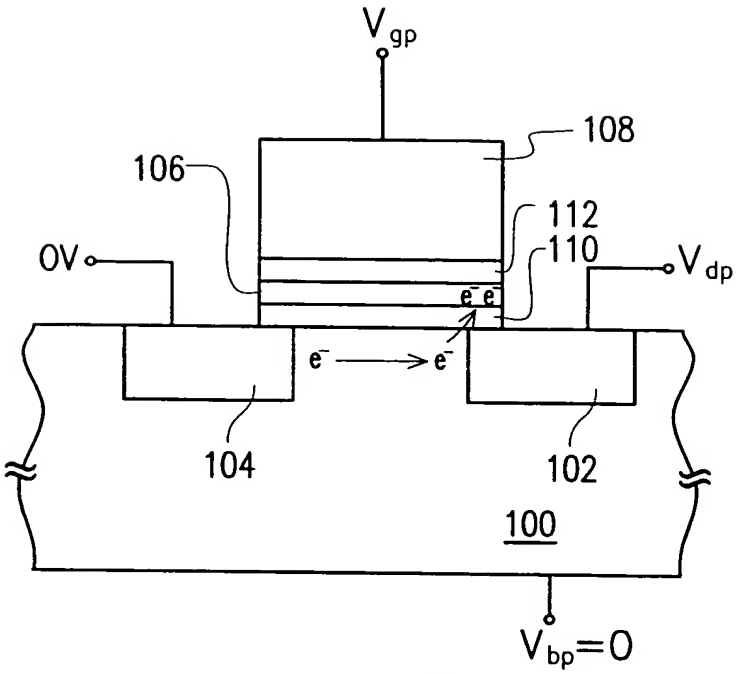
V_{gp}
108
106
112
110
0V
V_{dp}
e^- e^-
e^- → e^-
104
102
100
$V_{bp}=0$

FIG. 1A

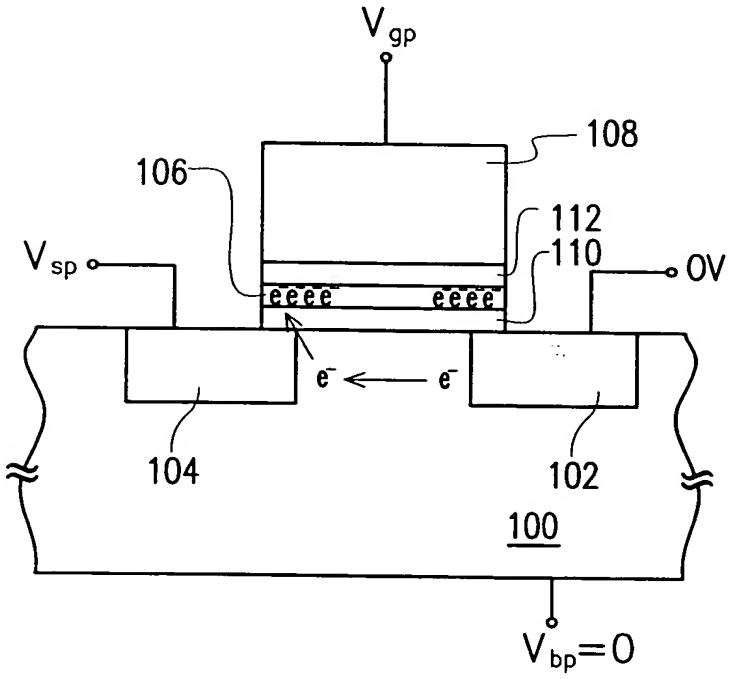
V_{gp}
108
106
112
110
V_{sp}
0V
eeee eeee
e^- ← e^-
104
102
100
$V_{bp}=0$

FIG. 1B

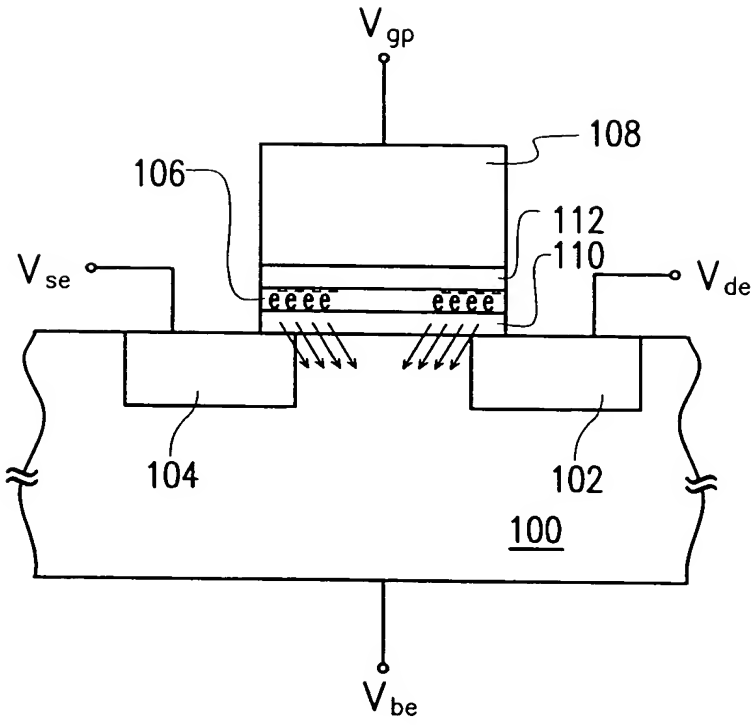

FIG. 1C

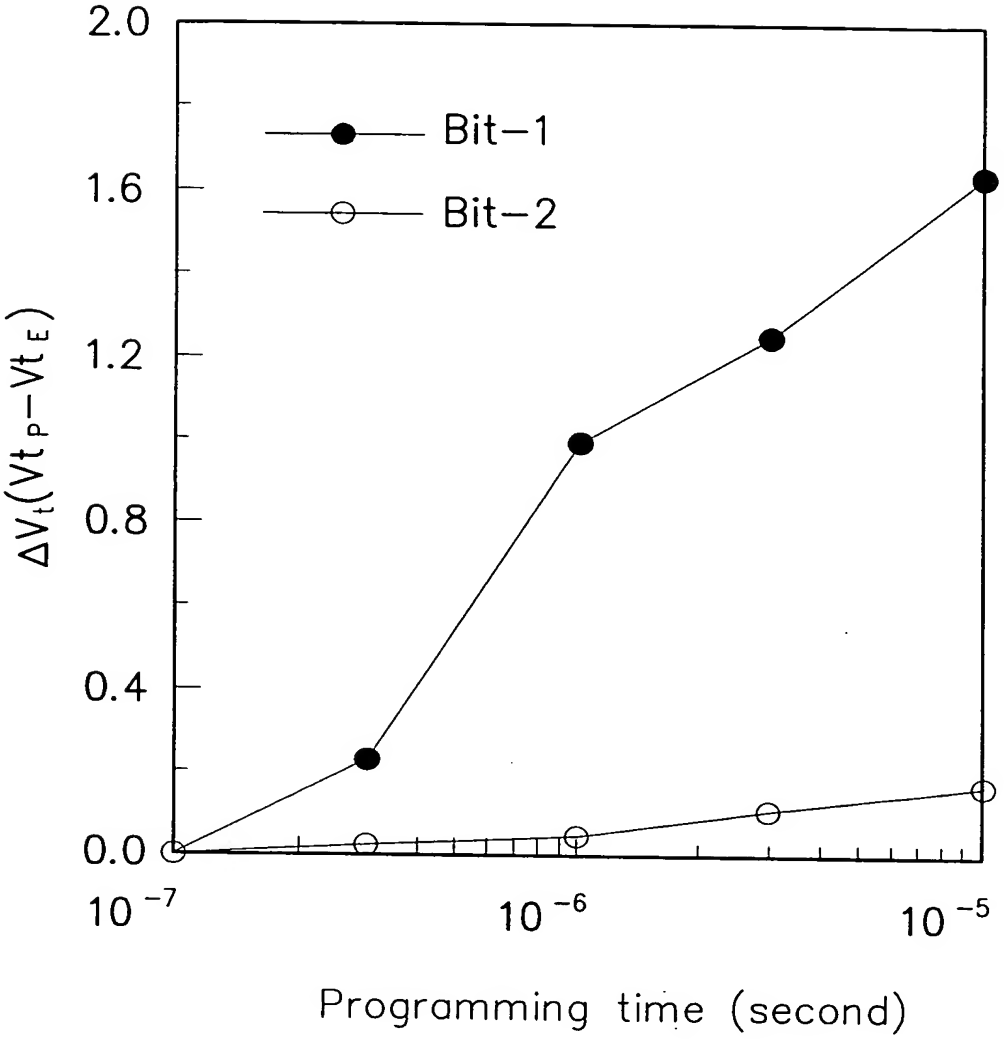
2.0
1.6
1.2
0.8
0.4
0.0
Bit−1
Bit−2
$\Delta V_t(Vt_P - Vt_E)$
10^{-7}
10^{-6}
10^{-5}
Programming time (second)

FIG. 2A

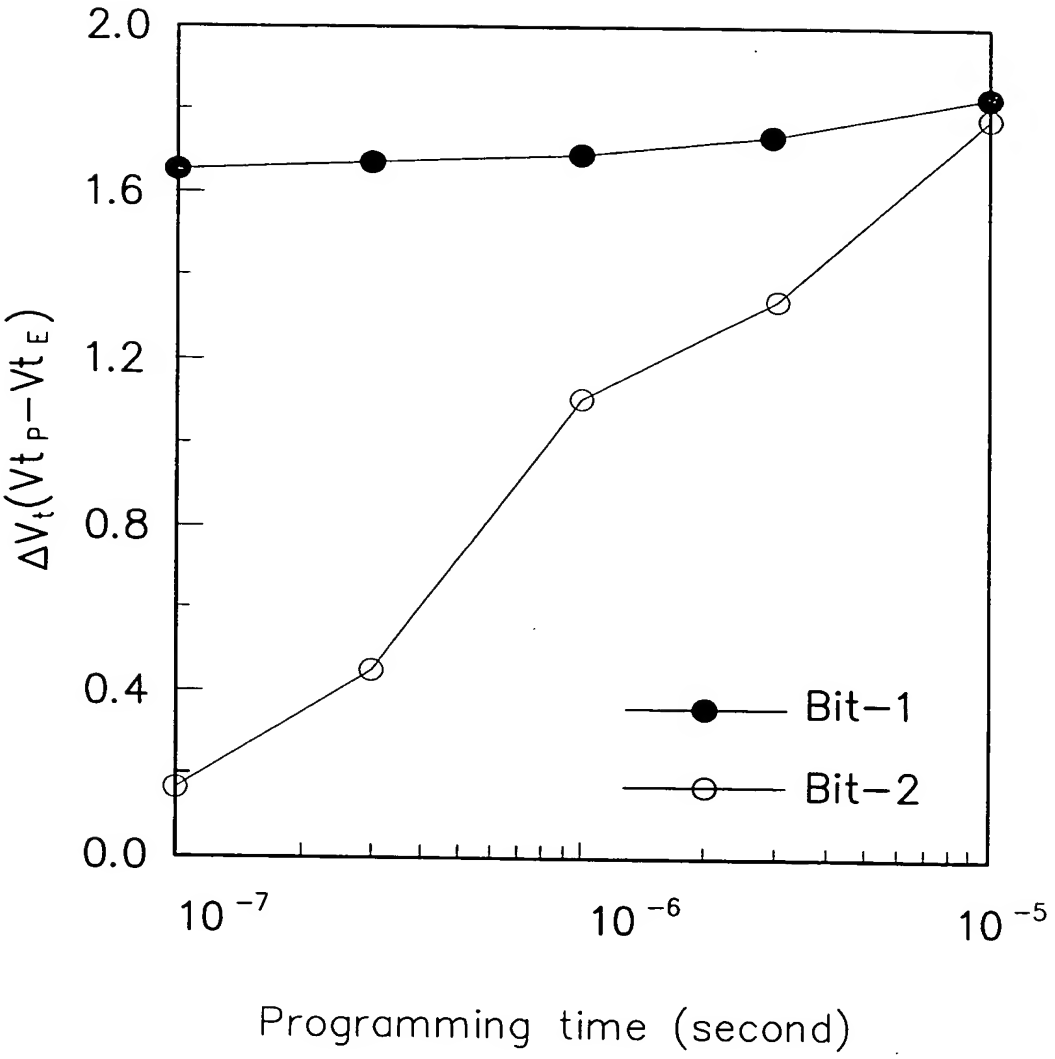
2.0
1.6
1.2
0.8
0.4
0.0
$\Delta V_t(Vt_P - Vt_E)$
Bit-1
Bit-2
10^{-7}
10^{-6}
10^{-5}
Programming time (second)

FIG. 2B

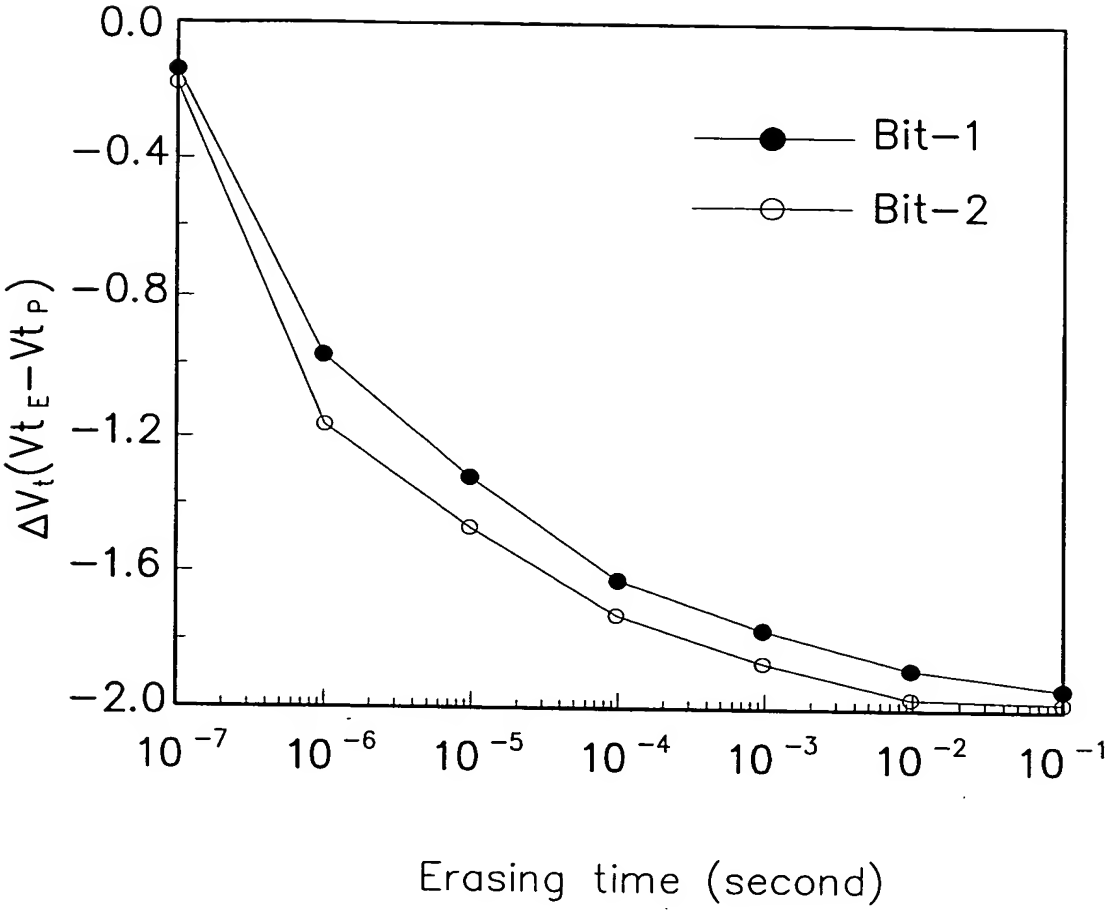
0.0
−0.4
−0.8
−1.2
−1.6
−2.0
$\Delta V_t(Vt_E - Vt_P)$
Bit−1
Bit−2
10^{-7}
10^{-6}
10^{-5}
10^{-4}
10^{-3}
10^{-2}
10^{-1}
Erasing time (second)

FIG. 2C

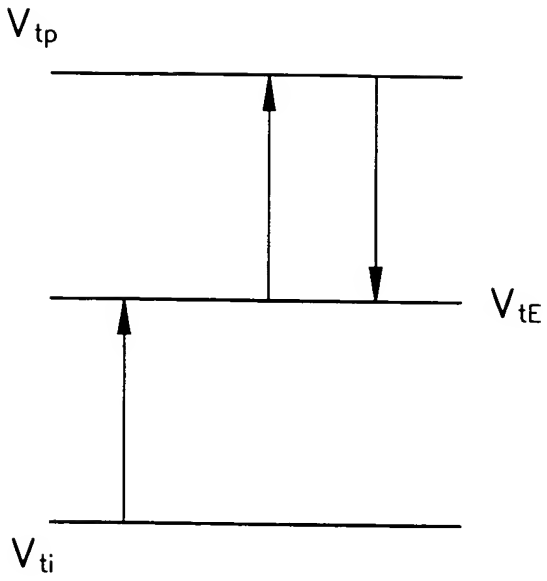

FIG. 3